

Cicogrout[®]MC

High Strength Large Pouring Micro Concrete Repair Grout

DESCRIPTION

Cicogrout[®]MC is a cementitious, micro concrete, normal setting, and non-shrink pourable grout. Cicogrout[®]MC contains Portland cement, graded silica sand, graded aggregates up to 10 mm in size, fillers, and chemical additives. This non-shrink grout is applicable for the large grout gap thickness range of 40-350 mm.

USES

- Large gap grouting.
- Columns jacketing and upgrading of structural sections.
- Pile cap repair.
- Deep and large concrete cavities repair.
- Big anchor boxes filling.
- Rails and machinery fixation.
- Heavy steel frame fixation.

ADVANTAGES

- Made in accordance with [Dimension Stability Technology].
- Easy to apply; one component.
- Obtains high durability for structures.
- High compressive strength.
- Wide range of grouting gaps.
- Chloride free.
- Non-shrink.
- Doesn't require bonding agent application.
- Replacing concrete in many cases.
- Could be used in high quality repair.
- Breathable.
- Helps avoid steel reinforcement rust.

PACKAGING

30 & 50 kg bags

SHELF LIFE & STORAGE

12 months storage life if stored in its original unopened containers under a dry and shaded place in a temperature from 5°C to 40°C.

TECHNICAL PROPERTIES

Form	Grey Powder
Fresh Wet Density	2350±50 kg/m ³
Pot Life @ 25°C	>25 min.
Volume change after 28 days (ASTM C157)	0.02%
Repair gap thickness	40-350 mm
Initial setting time @ 25°C	55 min
Final setting time @ 25°C	3 hr.
Yield (30 Kg bag @ 10.25% W/P)	12.5 liters
Coefficient of Thermal Expansion	11 X 10 ⁻⁶ m/m per °C
Rapid Chloride Ion Penetration	960 COULOMBS

MECHANICAL CHARACTERISTICS

Compressive Strength @ 10.25% W/P (ASTM C109)

1 day	49±2 N/mm ²
3 days	58±2 N/mm ²
7 days	72±2 N/mm ²
28 days	82±2 N/mm ²
Modulus of elasticity (ASTM C469)	37.61 Gpa

Flexural Strength @ 10.25% W/P (ASTM C348)

1 day	5.75±0.25 N/mm ²
3 days	7.75±0.25 N/mm ²
7 days	8.75±0.25 N/mm ²
28 days	9.75±0.25 N/mm ²

Tensile Strength @ 10.25% W/P

1 day	3.5±0.25 N/mm ²
3 days	4.0±0.25 N/mm ²
7 days	5.25±0.25 N/mm ²
28 days	6.25±0.25 N/mm ²

APPLICATION INSTRUCTIONS

Surface Preparation

The surfaces to be grouted with Cicogrout®MC should be clean and free from all contaminants such as oil, grease, laitance, paint, or corrosion products. Any contamination should be removed by mechanical means to produce a sound substrate. The bond surfaces should be kept wet (SSD surface condition) for at least 24 hours prior to grout application.

Mixing

Mix Cicogrout®MC with 2.9 to 3.25 liters of water per bag to obtain the required consistency. Use a clean suitable container (not less than 20 liters volume) for one bag mixing using a high torque medium speed mixer and suitable pedal for about 90 seconds. In case of more than one bag mixing, using a drum mixer of 150-200 liters volume is recommended but mix for 2-3 minutes. Always add grout to clean water (the right quantity of water is variable, depending on the desired flowability degree). It is recommended to keep the mixed grout temperature in the range of 10-30°C, by using cold water in hot weather and warm water in cold weather, and shading all the time while storing, mixing, and placing.

Application

Cicogrout®MC should be applied within 20 minutes of mixing. For horizontal application, it should be poured continuously, and formwork should be tamped gently. For vertical applications such as boreholes, the grout should be poured/injected starting from the bottom and should continue until the borehole is full. The entrance should then be plugged. Keep the surfaces exposed to the atmosphere restrained, after moistening or applying a curing compound to prevent evaporation or cracking. Cicogrout®MC may be placed in thicknesses up to 350 mm in a single pour. For sections thicker than this limit, it is necessary to contact CIC technical representative for advice. A conventional concrete mixer and pump should be used. Cicogrout®MC must not be vibrated or compacted.



Warranty

CIC products are guaranteed against defective materials and manufacture and sold subject to CIC's standard terms and conditions of sale. Whilst CIC endeavors to ensure that any advice, information or recommendation given is correct, the company cannot accept any liability either directly or indirectly arising from the use of its products. User of the product must test the product's suitability for the intended application and purpose, since the company has no control over the application of its products. Information contained in this document is given on the best current knowledge. Our Products are in continuous development and CIC reserves the right to change the product without prior notice.

Curing

The finest curing procedures should be applied to keep the hydration water of grout in place. That means early curing and multi-stage curing together as follows:

Just after finishing the surface (within 30 minutes after casting), spray any Cicocure® product on the exposed area and then cover it with a PET sheet. After deshuttering (normally after 24 hrs.), all exposed areas should be water saturated, and then covered with a wet cloth and kept wet for 3 days. This is the best curing method, but in case of lack of water, another curing compound spray should be applied over all exposed surfaces after deshuttering and be recovered again with a PE sheet for 3 days.

CLEANING

Tools freshly contaminated with Cicogrout®MC can be cleaned using water. Hardened material can be removed by mechanical means.

PRECAUTIONS

Health And Safety

Cicogrout®MC is an alkaline, non-hazardous. It should not be swallowed or allowed to come into contact with skin or eyes. Suitable protective goggles and gloves should be worn. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. When contact with the skin is made, wash off immediately with soap and water. If swallowed, seek medical attention immediately, do not induce vomiting.

TECHNICAL SUPPORT

CIC provides on-site assistance, as well as consulting services on projects when requested. Technical data sheets on other CIC products and guidance on their use are available on request.